

Bicycle fork lock

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Abstract

815,456. Cycle locking devices. ALCAR- ESE, S. Nov. 8, 1957 [Sept. 6, 1957], No. 34875/57. Class 79(3) A bicycle fork lock comprises a locking mechanism 24 on a frame member 10 for projecting a locking pin 32 through an aperture 30, in which it is non-rotatable, into engagement with a locking plate 50 fixed to the fork so as to turn with the latter and wherein the locking of the fork relatively to the frame in any desired angular position is effected through selective engagement by the pin of a series of adjacent teeth 60 on the plate 50, for which purpose the pin has an end slot 36 whereby it can engage and straddle any one of the teeth and also engage between the teeth on either side of the tooth thus straddled. When it is desired to lock the front wheel fork, the steering column 14 is rotated to the desired position and a key 26 actuated to lower the locking pin 32 with the slot 36 receiving one of the teeth 60. To unlock the front fork the key 26 is turned to raise the pin 32.

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Description

PATENT SPECIFICATION

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Index at Acceptance:-Class 79 (3), QI E 2 D.

International Classification:-B 62 d.

RF05875

COMPLETE SPECIFICATION

Bicycle Fork Lock I, SALVADOR ALCARESE, P O Box 21, La Ceiba, Honduras, Central America, a citizen of Honduras, do hereby declare the invention for which I pray a patent may be granted to me and the method by which it is to be performed, to be particularly described in and by the following statement:-

This invention relates to an improved bicycle fork lock of the kind in which the bicycle is made impossible to ride by angularly locking its steering column relatively to the frame.

The lock in accordance with the invention comprises a locking mechanism on the frame for projecting a locking pin through an aperture, in which it is non-rotatable, into engagement with a locking plate fixed to the fork so as to turn with the latter and wherein the locking of the fork relatively to the frame in any desired

angular position is effected through selective engagement by the pin of a series of adjacent teeth on said place, for which purpose the pin has an end slot or groove whereby it can engage and straddle any one of said teeth and also engage between the teeth on either side of the tooth thus straddled.

In this way a substantial locking engagement can be obtained over a considerable range of very closely spaced angular positions.

The invention will now be further described with reference to the constructional form shown by way of example in the accompanying drawings, whereof: Figure 1 is a side elevation of this form of the lock and of the adjacent portions of the front wheel fork and of the frame members of the bicycle on which it is installed, with the lock operative; Figure 2 is a corresponding section along the line 2-2 of Figure 1; Figure 3 is a part section along the line 3-3 of Figure 1 to show how the locking pin is projected by the lock mechanism, I Price 39 6 d J Figure 4 is another part section, in this case along the line 4-4 of Figure 1 to show how the locking pin engages with the locking plate, Figure 5 being a perspective view of the s% said pin, and Figure 6 a perspective view of said plate.

In the embodiment of the invention thus illustrated, the ordinary frame member of the bicycle provides joint parts 10 and 12: 55 with the head 14 of the frame between them, through which the steering column extends with the front wheel fork elements 16 and 18 projecting downwardly and rotatable in the conventional ball bearing 20 between these 60 @ fork members and the joint part 10 The part last mentioned carries a lock cylinder 22, the inner mechanism 24 of which is actuated by a key 26 The part 10 is additionally formed with a boss 28 in which is an aperture 65 beneath said lock for enabling a locking pin 32, whose construction can be seen best in Figure 5, to be thereby downwardly projected through said aperture This aperture is square and a portion 34 of the pin is 7 O shaped correspondingly so as to be thereby held non-rotatably This square portion of the pin is further formed with an end groove or slot 36 for the purpose which will be explained later The pin also has a cylindri 75 cal portion 38 and a semi-cylindrical portion 40, being provided with a recess 42 for reception of a pin 44 operated by the locking mechanism 24 whereby the locking rod 34 is adapted to be raised or lowered by the lock 80 when the key 26 is rotated.

Mounted on the front wheel fork, below the bearing 20 and above the fork members 16 and 18, is a locking plate 50 which is forced onto the shaped sleeve part 52 and is 85 thereby securely fixed non-rotatably onto the cylindrical steering column 54 One part 58 of the periphery of this plate 50 is arcuate with respect to the steering column and is formed with a series of adjacent teeth 60 in 901 I 815,456 the manner of a sector or quadrant gear for locking by the square portion 34 of pin 32.

By the aforementioned end groove or slot 36 in that portion the pin can be thus engaged with any one of these teeth so as to straddle it, whilst at the same time engaging between the teeth adjacent that tooth on either side thereof The locking engagement thus obtained is therefore a substantial one not restricted to just a single tooth At the same time the close spacing of the teeth and the fact that any of them can be used as the central one of the engagement, makes locking possible in substantially any desired angular position.

In operation, when it is desired to lock the front wheel fork with respect to the frame, the steering column is turned into the desired position and the key 26 then actuated to project the locking rod 34 into the locking engagement with teeth 60 just described.

The locking mechanism 24 is of a conventional type and after it has been thus operated by means of the key 26, the bicycle cannot be ridden inasmuch as it is impossible to steer it.

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Claims

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WHAT I CLAIM IS:-

1. A bicycle fork lock comprising a locking mechanism on the frame for projecting a locking pin through an aperture, in which 30 it is non-rotatable, into engagement with a locking plate fixed to the fork so as to turn with the latter and wherein the locking of the fork relatively to the frame in any desired angular position is effected 35 through selective engagement by the pin of a series of adjacent teeth on said plate, for which purpose the pin has an end slot or groove whereby it can engage and straddle any one of said teeth and also engage be 40 tween the teeth on either side of the tooth thus straddled.

2 A bicycle fork lock substantially as herein described with reference to the accompanying drawings 45
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